Testimony before

Congress of the United States House of Representatives

Committee of Government Reform



Rayburn House Office Building at 2:00 p.m. on Thursday July 20, 2006

Testimony before the Government Reform Committee's Subcommittee on Criminal Justice, Drug Policy and Human Resources, July 20, 2006

My name is Douglas Barnhart and I am the Chief Executive Officer of Barnhart, Inc. Barnhart Corporation was incorporated in February 1983 in San Diego, California and has constructed various projects for the Federal Government since its incorporation. Currently Barnhart, Inc. is ranked 90th in the Engineering News Report of the Top 400 Contractors in the Nation with a total 2005 revenue in excess of \$486 million. My company and I have extensive experience working for the federal government on both military and civilian projects. I also have experience working on structures on the U.S./ Mexican border. I am here today to provide a realistic cost estimate for the construction of a fence on the U.S. Mexican border and provide a time-line for the construction process. I also want to highlight some of the potential problems that might be encountered.

Presented today is the final accumulation of knowledge gained in preparing three estimates of cost for the Border Fence construction. In preparing the estimate of cost, Barnhart estimators utilized local knowledge of climate conditions, local industry capability, as well as work experiences gained during construction projects such as the Calexico Border Station. This local experience was combined with Barnhart historical cost data and cost/scheduling information provided by a qualified group of trade contractors all located in the Southern California and Arizona area to develop expected cost of performance. In preparing the final estimate of cost, I accompanied the Barnhart Vice President for Estimating & Preconstruction Services to the border area south of San Diego where the fence was personally viewed and its past construction history discussed with onsite U.S. Military personnel.

The scope of work considered for pricing purposes was rough and fine grading for 40 linear miles of 24 ft. wide all weather road. Composition of the road consist of 12" thick recycled class II aggregate base which is very similar to the road condition observed during the site visit; labor cost to install government funded material for one (1) fence line with fourteen (14) ft. high steel mesh and a 2.5 ft. overhang. Concrete work associated with seven (7) feet deep, two (2) feet diameter flag pole footings complete with fence post PVC sleeve and a one (1) foot wide four (4) feet deep below grade wall to provide a below grade entry barrier.

The scope of work did not include, permanent fence lighting, surveillance cameras, buried motion detectors, landscaping, agency permits and fees, design fees or underground storm drainage. If required, these can add significant costs. Permits for building structures on new alignments are always time consuming. For example, building a highway on a new alignment can take 7 to 12 years just to get through the environmental process.

Depending on the project delivery method utilized design fees and contract plans and specification may be required.

To accommodate the differentiation in terrain along the vast U.S./Mexico border, I have included some contingencies. For instance, in areas where the slope to the fence dictates, it will be necessary to add a concrete swale to prevent water runoff from washing out the fence. At the ends of the swale, rock rubble will need to be used to disseminate the water energy before its release into natural water channels. The estimate of cost includes a linear foot unit cost for this work, but until each site is investigated, it is impossible to estimate how many feet or miles of fencing will require this mitigation.

As for schedule, in discussion with U. S. Military personnel, I was informed that the past rate of progress of the fence erection was 100 to 110 linear feet per day. At this production rate it would take a little over seven years to construct 40 miles of fence utilizing a 5-day work week.

To obtain an acceptable schedule, a multi-prime format was considered with division of the work into ten (10), four mile segments. The work would be surveyed to establish horizontal and vertical control points for each segment. Road construction would proceed followed by fence construction. Such an approach would result in significant but bondable work segments for local trade contractors and would reduce overall construction time to six months or less depending on the work week utilized.

There are significant other factors to consider in this construction. Mobilization of the workforce and materials to the site will be difficult in remote areas. Having constructed the Calexico Border Crossing Station, I know security of materials is a consideration. To combat losses, a mobile erection platform system is anticipated which will also serve for transport of materials to and from a construction base operation center. While remote areas can expose your workforce to dangers, I had no personal security issues during the construction of the Calexico Border Crossing Station and none are considered in this estimate of cost.

As noted in the attached Border Fence Expansion Budget Estimate Report the price for fence construction is estimated to be \$1,441,687.82 per mile. Add to this government furnished materials which in current dollars are estimated to be \$675,000.00 per mile.

Thank you for the opportunity to testify before your Subcommittee on Criminal Justice, Drug Policy and Human Resources.



General Summary

In an effort to expand the Mexico border fence along California's eastern border and Arizona's desert border, Barnhart, Inc., in December of 2005, was approached by our local Congressman to provide a cost estimate for the installation of 40 miles of fencing similar to the existing secondary border fencing design in San Diego, CA. The following is a summary of the approach and cost information established by Barnhart, Inc. for the Border Fence Expansion.

Summary of Border Fence Budget Estimate #1

In December 2005 Barnhart Inc.'s first budget estimate was to establish the cost of labor to install two (2) fence lines with 14' high Steel Mesh with 2.5' overhang for 40 miles. The estimate was also to include grading and 12' thick aggregate base for a 24' wide all weather road for 40 miles. Barnhart, Inc. presented a cost estimate of \$72,579,754.63.

Summary of Border Fence Budget Estimate #2

In May of 2006, Barnhart Inc. was requested to provide a revised estimate to include only one (1) fence line and all weather road in lieu of the original concept of two (2) fence lines and all weather road. Barnhart Inc.'s cost estimate as of May 2006 was \$52,370,442.43.

Summary of Border Fence Budget Estimate #3

July 2006 revised estimate based on the Border Fence site visit in San Diego, CA. Cost estimate is based on the below scope of work, a 20 month construction duration and government furnished materials list dated April 7, 1998. Barnhart Inc.'s cost estimate as of July 2006 is \$57,667.512.67

Current estimate is based on one (1) fence line and associated overhang of 40 miles. Quantities and pricing for grading, the proposed all weather road, and surveying were not affected by the revised scope of one (1) fence line in lieu of two (2) fence lines. This Estimate #3 included a 1' wide x 4' concrete wall footing (This concrete wall footing cost was not included in the Estimate #1 & #2).

Cost Estimate Approach

In a continued effort to provide updated and accurate costs for the scope of work, Barnhart utilized historical cost data and cost / scheduling input from a qualified group of subcontractors (reference list attached) within California and Arizona to provide the above cost estimate.

Scope of Work included:

Grading for 24 feet wide road for 40 miles. 12" recycled class II aggregate base for the proposed all weather road. Labor cost to install government furnished materials for one (1) fence line with 14 feet high Steel Mesh and a 2.5 feet overhang for 40 miles. The estimate includes the cost of Surveying, Supervision and necessary temporary facilities.

Exclusions

o Private Security, Strom Drainage, Concrete Brow Ditch (add \$40.00 per LF), Surveillance Cameras, Buried motion detectors under the road, Agency Permits and Fees, Design Fee (add 7% of total estimated construction costs), Curbs and Gutters, Painting, All Materials including Steel Mesh Fence, Steel Posts, Clamps, and Ready-mix Concrete.



costs), Curbs and Gutters, Painting, All Materials including Steel Mesh Fence, Steel Posts, Clamps, and Ready-mix Concrete.

Scheduling Options

Barnhart, Inc. understands the necessity to have the border fence expansion completed in an expedited fashion and has researched with our interested subcontracting partners various options focused on decreasing the estimated 20 month construction duration through the use of multiple construction subcontractor teams. Options include:

- 8-10 month schedule

- Division of the proposed 40 mile expansion into two (2), twenty (20) mile segment subcontracts or;
- Division of the proposed 40 mile expansion into four (4), ten (10) mile segment subcontracts

- 3-6 month schedule

 Division of the proposed 40 mile expansion into ten (10), four (4) mile segment subcontracts

It should be noted that the above accelerated schedules do have the potential to increase the project costs due to risks associated with accelerated schedules such as liquidated damages and increased overtime.

Line Item explanation of Attached Project Cost Estimate

1. Grading

- o Cost input received from Granite Construction of San Diego, CA.
- Scope of work includes the grading to follow the existing natural grade for 5,068,800 square feet @ \$1.65 per square foot.
- Grading quantities determined by proposed 40 miles @ 5,280 feet per mile, multiplied by the width of the proposed all weather road of 24 feet, equaling 5,068,800 square feet

2. All Weather Road

- Cost input received from Granite Construction of San Diego, CA and ABC
 Construction of San Diego, CA
- Scope of work to include 12" thick recycled class II aggregate base based on the above grading square foot quantities @ \$2.40 per square foot.

3. Concrete Footings for Steel Posts

- Cost input from Barnhart Inc.'s historical cost data
- Scope of work to include 24" diameter x 7' deep concrete footings for Steel Posts at 10' spacing for 40 miles. Quantity equals 40 miles x 5280 feet per mile divided by 10 feet spacing = 21,210 each. Labor cost to drill & install the concrete footing @ \$165.00 / each.

4. Concrete Wall Footings

- o Cost input from Barnhart Inc.'s historical cost data
- Scope of work to include 1' wide x 4' concrete wall footing for 40 miles.
 Quantity equals 40 miles x 5280 feet per mile x 1fence line = 211,200 feet.
 Labor cost to install the concrete wall footing @ \$19.50 / foot.



5. Labor for Installation of Fencing

- Price quotes received by Area West Fence Co. of Lakeside, CA, McMahon Steel of San Diego, CA, Fencing by S.K. LLC of Yuma AZ and Alcorn/Atlas Fence Co. of San Diego, CA
- Scope of work to include the labor only to drill for concrete footings and install fencing and overhang
- o Fencing quantities determined by proposed 40 miles multiplied by 5,280 feet per mile, equaling 211,200 lineal feet @ \$104.00 per lineal foot.

6. Surveying

o Pricing determined @ \$37,500.00 per mile.

7. Supervision/General Conditions

- o Pricing based on 20 month construction duration @ \$45,000 per month
- o Includes management and necessary equipment and supplies required to construct and manage the project

11. Contingency

- o 5% contingency of estimated construction costs
- o Utilized for potential cost overruns due to unforeseen conditions, potential weather delays and potential cost escalation

15. Overhead and Profit

o Corporate main office overhead and profit

19. Payment and Performance Bonds

o Estimated cost for secured payment and performance bonds on the project

Attachments:

Exhibit A	July 2006 Border Fence Budget Estimate
Exhibit B	Government Furnished Material List
Exhibit C	Border Fence Sketch
Exhibit D	Photos of Existing Secondary Border Fence in San Diego, CA
Exhibit E	Subcontractor Reference List



Exhibit A

July 2006 Border Fence Budget Estimate

	Description		Unit	\$/Unit		Amount	
		Quantity					
1	Grading for 40 miles. Quantity equals 40 miles x 5280 ft per mile x 24 ft wide = 5,068,800 SF	5,068,800	SF	\$	1,65	\$	8,363,520.00
2	Labor and material cost for 12" thick recycled Class II Aggregate Base for All Weather Road for 40 miles. Quantity equals 40 miles x 5280 ft per mile x 24 ft wide = 5,068,800 SF	5,068,800	SF	\$	2.40	\$	12,165,120.00
3	Labor cost only to drill & install Concrete footings for Steel Posts at 10' spacing for 40 miles. Quantity equals 40 miles x 5280 ft per mile / 10 ft spacing = 21,120 Each (Materials provided by government agency)	21,120	EA	\$	165.00	\$	3,484,800.00
4	Labor cost only to install 1' wide x 4' Concrete wall footing for 40 miles. Quantity equals 40 miles x 5280 ft per mile x 1 fence line = 211,200 LF (Materials provided by government agency)	211,200	LF	\$	19.50	\$	4,118,400.00
5	Labor cost only to install 14 ft high Mesh Steel Fence with 2.5 ft overhang for 40 miles. Quantity equals 40 miles x 5280 ft per mile x 1 fence line = 211,200 LF (Materials provided by government agency)	211,200	LF	\$	89.50	\$	18,902,400.00
6	Survey	40	Miles	\$ 3	7,500.00	\$	1,500,000.00
7	Supervision and General Conditions	20	Months	\$ 4	5,000.00	\$	900,000.00
8				!			
9	Subtotal:					\$	49,434,240.00
10							
11	Contingency	5%				\$	2,471,712.00
12							
13	Subtotal:	-				\$	51,905,952.00
14 15	Overhead and Profit	450/					
16	Overhead and Florit	10%				\$	5,190,595.20
17	Subtotal:	· · · · · · · · · · · · · · · · · · ·				\$	57,096,547.20
18						<u> </u>	0.,000,077,00
19	Payment & Performance Bond	1%				\$	570,965.47
20							
21	TOTAL: (for 40 miles)					\$	57,667,512.67
22	Total \$ / Mile:				:	\$	1,441,687.82



Exhibit B

Government Furnished Material List

Angled Security Fence Actual Materials Cost Estimate Per Mile April 7, 1998									
ITEM#	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE				
1	Pipe, 4" O.D. X 14'10" S540 Galv. (Cut @ 22.5 Degree Angle)	535	ea.	\$45.12	\$24,139.20				
2	Pipe, 4" O.D. X 6'4" SS40 Galv. (Cut @ 22.5 Degree Angle)	535	ea.	\$18.05	\$9,656.75				
3	Pipe, 3 1/2" O.D. X 8" SS40 Gaiv.	535	ea.	\$21.58	\$11,545.30				
4	Pipe, 1 5/8" O.D. X 20' SS40 Galv.	1,070	6a.	\$ 14.89	\$15,932.30				
5	Pipe, 4" I.D. Class 200 PVC 20" Lengths (3) 6'6" Pieces Per Length	180	63.	\$22.95	\$4,131.00				
6	Plate, Horiz, Cover, 7' X 10' 10 Ga. Gav.	535	ea.	\$34. 4 5	\$18,430.75				
7	Plate, Vert. Cover, 9" X 9'2" 10 Ga. Gelv	635	€ 3 ,	\$40,64	\$21,742,40				
8	Clamp (Large) 2" X 9" 10 Ga. Galv.	9,200	ea	\$1.25	\$11,500.00				
9	Clamp Strap (Large) 24 X 9" 10 Ga. Galv.	4,400	ea	\$0.60	\$2,640,00				
10	Clamp (Small) 2" X 6" 10 Ga. Galv.	21,700	ea.	.\$0.77	\$15,709.00				
11	Clamp Strap (Small) 2" X 6" 10 Ga. Galv.	16,200	ea.	\$0.44	57,128.00				
12	Clamp, Olfsel, Galv. for 4" to 1 5/8" Post to Rail Connections	2,170	ea	\$3,86	\$7,842.20				
13	Bolt, Carriage, 3/8" X 2 1/2" Grade 5 Galv. (For Offset Clamps)	31	gs.	\$30,19	\$935.89				
14	Expnd. Mtl. Lath, High Dens., 1/2" X 13 Ga. Galv. 11' X 7'6"	535	ea.	\$143.75	\$76,906.25				
15	Expnd. Mtl. Leth, 1/2" X 13 Ge. Galv. 11' X 6'	535	ea.	\$74.26	\$39,729.10				
16	Expnd. Mtl. Lath, 1/2" X 13 Ga. Galv. 11" X 4" 6" with Bend	535	ea.	\$58.45	\$31,270.75				
17	Cap, 4" P.V.C.	540	ea.	\$2,00	\$1,080.00				
18	Bolt, Carriage, 3/8" X 2" Grade 5 Galv.	500	gs.	\$23.71	\$11,855.00				
19	Nut, 3/8" Galv.	531	gs.	\$5.95	\$3,159.45				
20	Washer, 1/2" Galv.	870	gs,	\$6.81	\$5,924.70				
21	Cap, Post, Galv., Dome Style for 4" O.D. Pipe	535	ea.	\$1.81	\$988.3 5				
22	Paint, Cold Galvanized (To prime Welds)	264	GN.	\$3.75	\$990.00				
23	Caulking, Silicone (To Seel Post at Steeve)	25	ea.	\$2.00	\$50.00				
24	Pins and Loads (For Pawder Actuated Tool)(15 per panel)	7920	ea.	\$0.58	\$3,960.00				
25	Concrete, 5 Sack	1,200	cy.	\$57.26	\$68,700.00				
26	Forms, Misc. for Fence Returns @ .25 per If	5280	f.	\$0.25	\$1,320,00				
	TOTAL				\$398,346.39				
	Cost Upgraded on 12/13/05 Complete List of Materials Needed.				\$675,000.00				



Exhibit C

Border Fence Sketch

Fences on the U.S.-Mexico border

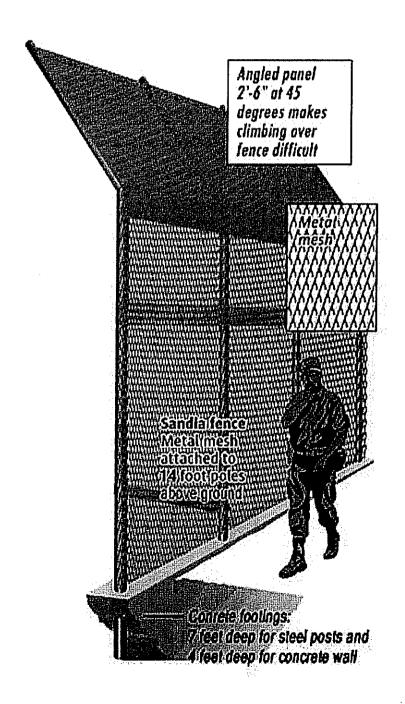


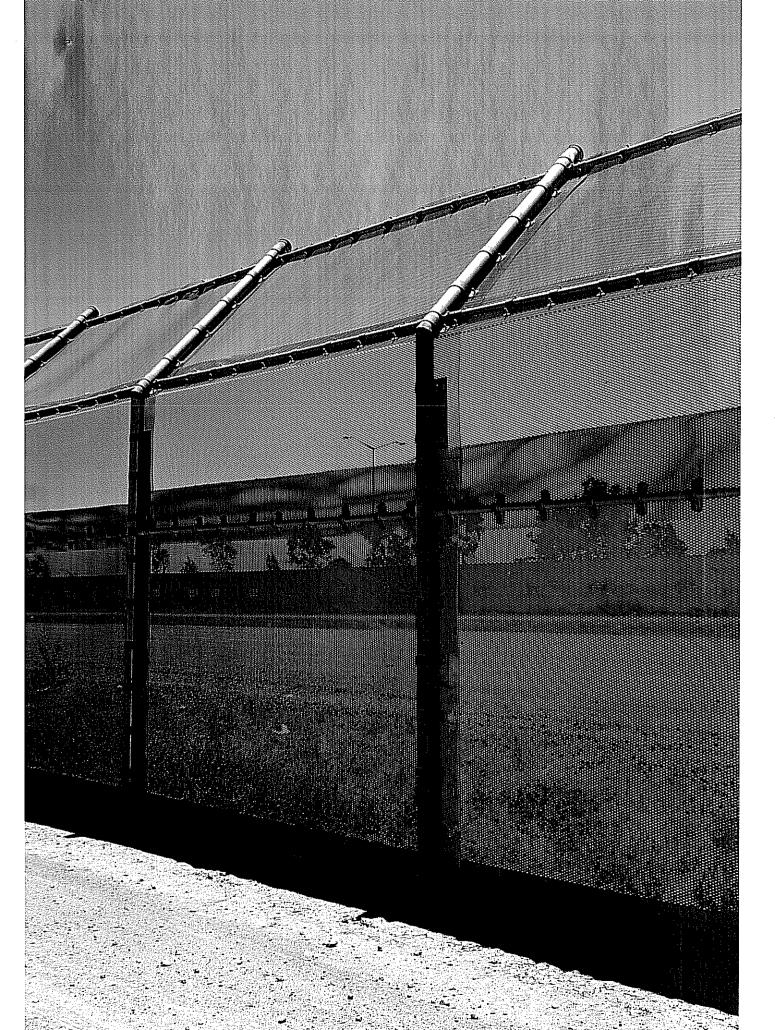


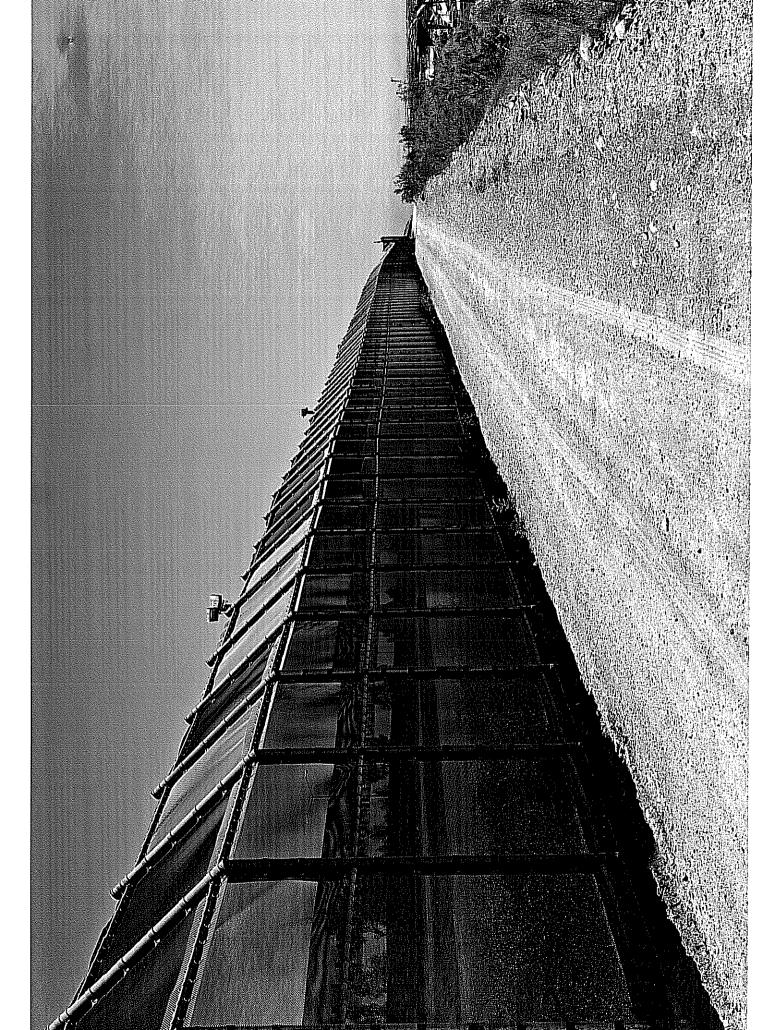
Exhibit D

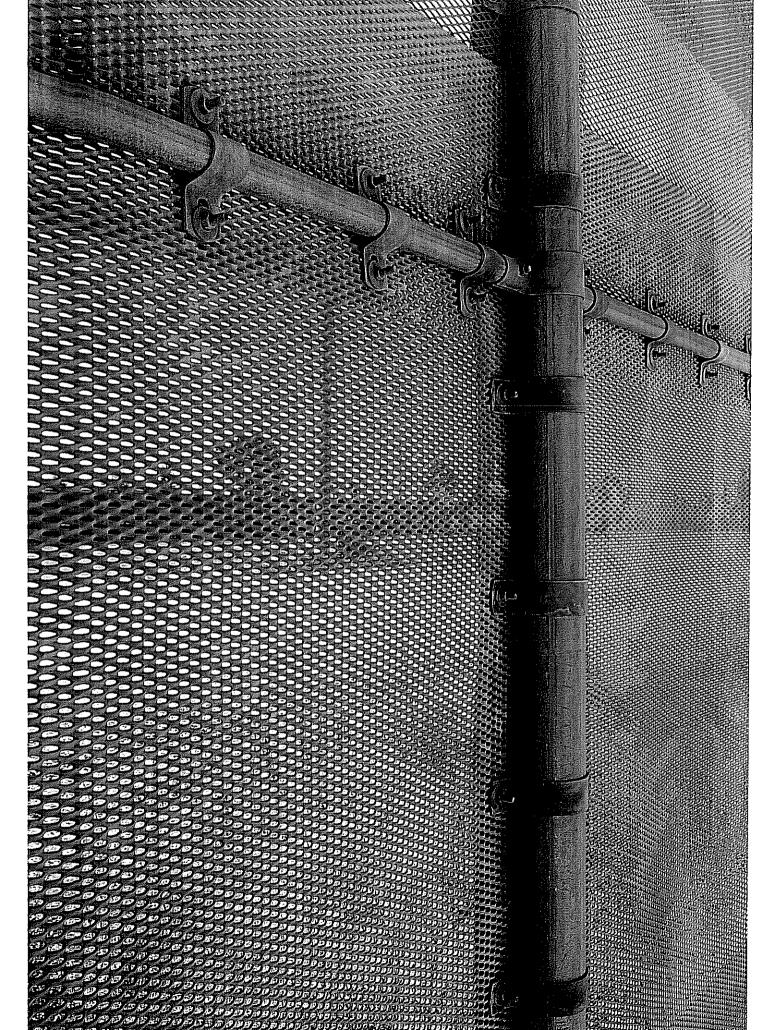
Photos of Existing Secondary Border Fence in San Diego, CA

please see following photos









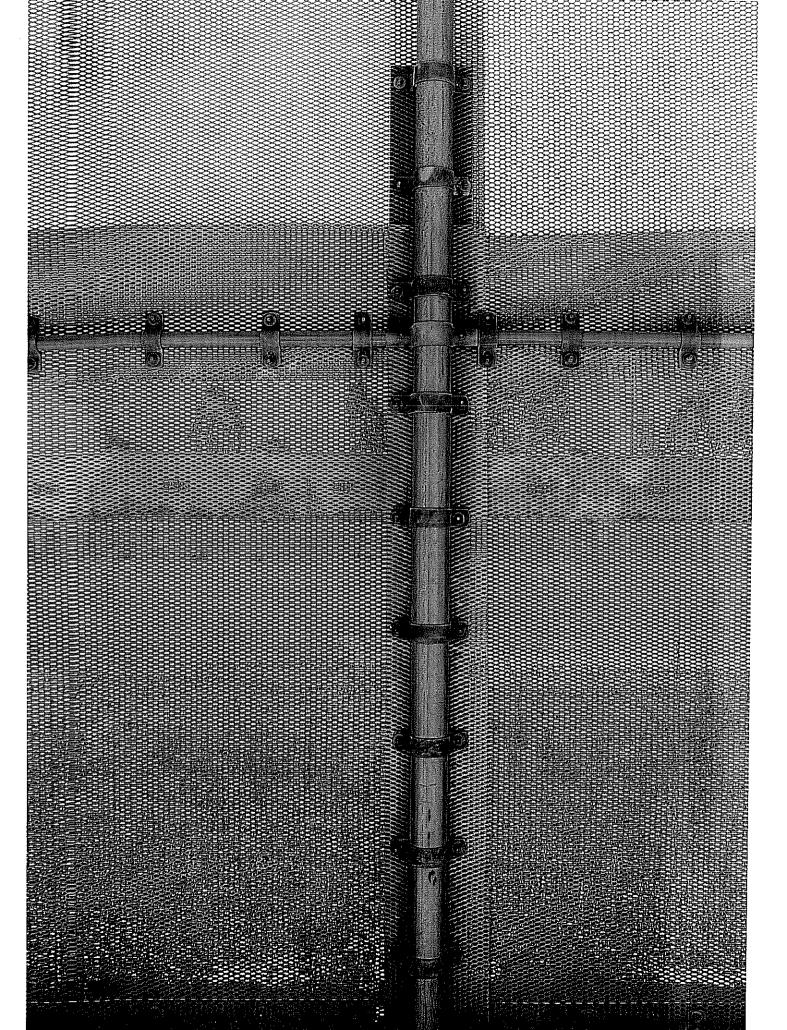




Exhibit E

Subcontractor Reference List

- The following subcontractors have expressed interest in providing the scope of services identified for the Border Fence expansion
 - o Area West Fence, Lakeside, CA
 - o Alcorn/Atlas Fence, San Diego, CA
 - o Fencing S.K. LLC, Yuma, AZ
 - o Crown Fence, San Diego, CA
 - o Ace Fence, City of Industry, CA
 - o All Cities/Betance, Inc., Riverside, CA
 - o McMahon Steel, San Diego, CA
 - o Tri City Fence, Escondido, CA
 - o Quality Fence, City of Industry, CA
 - o Landmark Fence, Riverside, CA
 - o Granite Construction, San Diego, CA
 - o ABC Construction, San Diego, CA